DosiBase ELDos

User’s Manual

Software version 1.7.3.x

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1 INTRODUCTION

DosiBase ELDos® is developed using Microsoft® SQL Server® 2017 as data storage.

"DosiBase ELDos® is a flexible, configurable and easy to use TruDose database for rapid issuing and dose collection for the electronic dosimeters

Collects dose for Hp (10), Hp (0.07),

- Possibility to connect / extend to TLD dose database (upon special request)
- Password protected user and modes
- Flexible reporting periods, standards for monthly, yearly and lifetime dose
- Freely configurable headers and footers for printed reports
- Easy export of reports to Word®, Excel® and PDF files

Designed to work with EPD TruDose IR Reader, EPD TruDose Desktop Reader, compatible with EPD TruDose Electronic Dosimeter and EPD Mk2 Series "

2 PREPARATION FOR WORK

2.1 HARDWARE REQUIREMENTS:

- Minimum of 4 Gb of RAM or more.
- Minimum processor speed 2 GHz or higher.
- 100 MB of free hard drive space to store a database.
- Monitor with a resolution of 1280×720 or higher.
- EPD TruDose IR reader.

2.2 SOFTWARE REQUIREMENTS

For the software to be fully functional, it requires either of the following operating systems:

- Windows Server 2016/2019 Datacentre.
- Windows Server 2016/2019 Standard.
- Windows Server 2016/2019 Essentials.
- Windows 10/11 Professional.
- Windows 10/11 Home.

All latest OS updates should be applied.

Additional requirements:

- .NET 4.7.2 or later is required.
- MS SQL Server 2017 Local DB (It will be downloaded and installed automatically)

Depending on your computer or network security policies, there can be restrictions on automatic downloading of additional components. Please contact your local IT support. Components can be download and installed in offline.

2.3 DOSIBASE ELDOS INSTALLATION

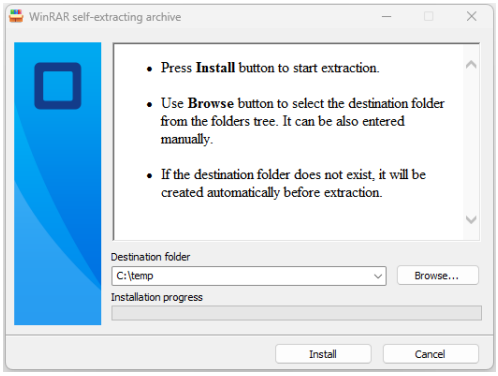
Before installing DosiBase ELDos, ensure that the computer's operating system has all current updates and service packs installed.

Note that if an SQL database LocalDB already exists on the computer, the DosiBase ELDos will require to recreate username and password.

If the Dosibase database on the SQL server has already been created from a previous installation, install Dosibase and restore previous database from backup.

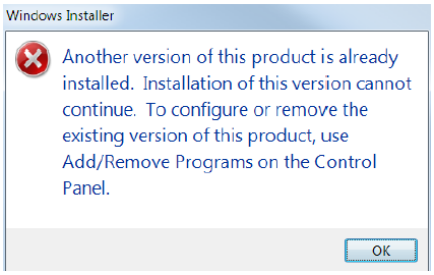
If the Dosibase software has been downloaded You can chouse one of two options: archive file DosibaseSetup.zip or self-extracting archive DosibaseSetup.exe

A) Begin the installation by double clicking on the Dosibase installer DosibaseSetup.exe to extract files and start installation process.

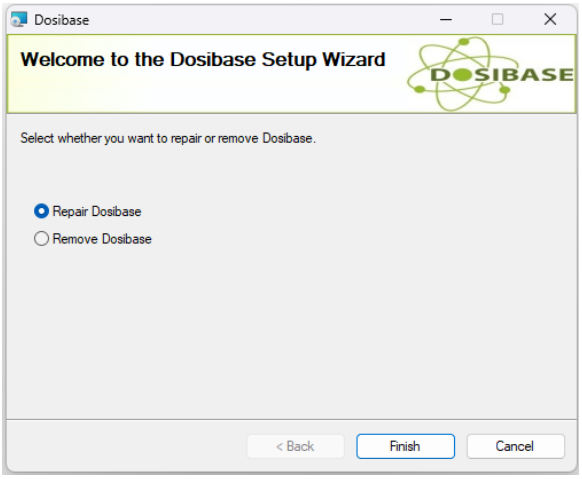


B) Extract DosibaseSetup.zip and run setup.exe file.

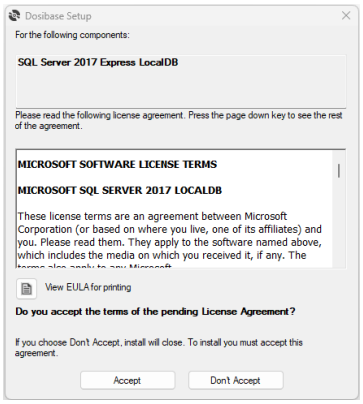
If there is a previous version of Dosibase installed, you will be directed to uninstall it in the Control Panel:



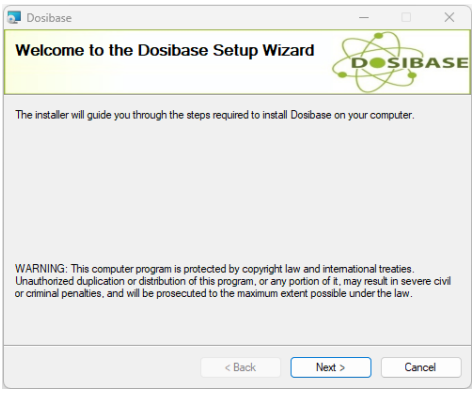
If you try to insstall the same version, installer will provide you to Repair Dosibase or Remove the software.



If you do not have SQL Server 2017 Express LocalDB pre-installed on your computer. It will be installed. Otherwise, this step will be skipped.

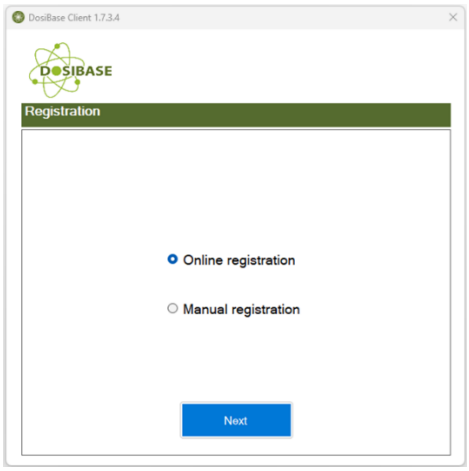


Click the “NEXT” button. Then, please, follow on-screen instructions. If the installation process is completed successfully, success messages appear. If case of installation failure, please, contact your local IT representative or DosiBase ELDos support.

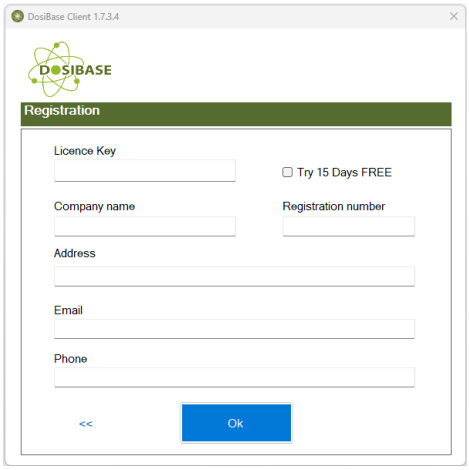


2.4 First Communication

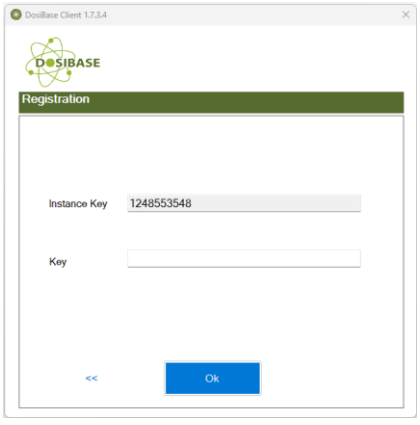
In first run of DosiBase, it requests registration of installation. You can chouse Automatic Online registration or proceed manual registration. You will need Dosibase license key that you can get from distributor.



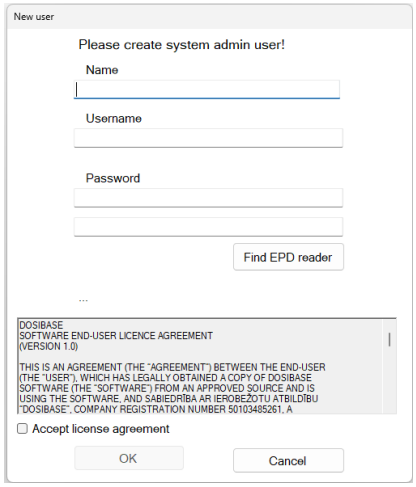
Online registration request to enter License key and contact information. It will be sent to Dosibase activation services to provide automatic activation. After successful Registration your license will be connected to the hardware. It is possible to get. It is possible to activate 15 days trial license.



If you choose manual registration, you will need to present Instance key to Dosibase Service desk by call or email to get activation key suitable for your hardware.



When the key is confirmed, DosiBase will launch and prompt you to create your main administrator account for the DosiBase. Once this account is created, you can begin using DosiBase.

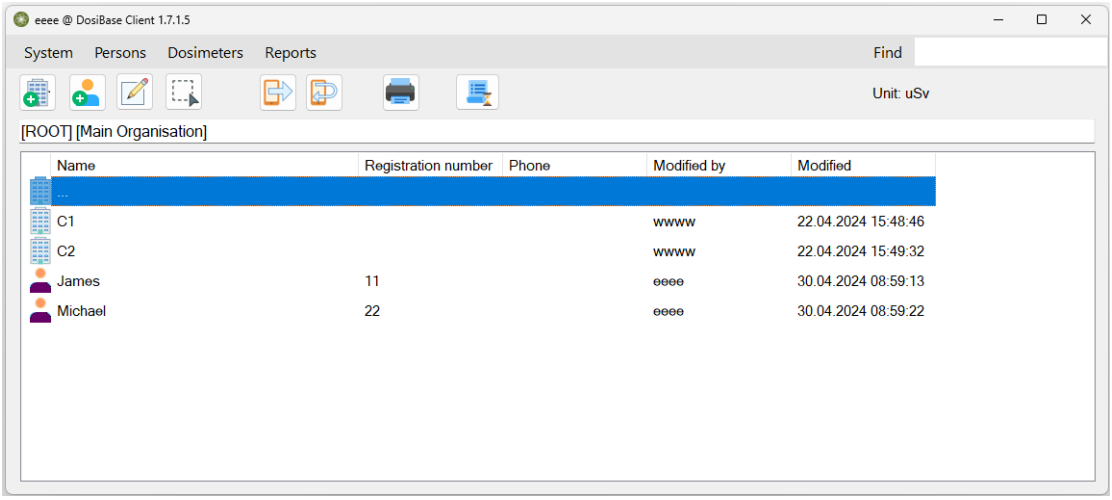


You can search EPD reader port number automatically. Press “Find EPD Reader” button then connect or reconnect reader to USB port. System will identify changes and will provide port number. Search mode will continue 10 seconds or till device is found. You can repeat search. Port number can be entered manually into DosiBase settings.

Please read an accept DosiBase license agreements to continue.

Next time you will be able to login system using login and password.

3 MAIN SCREEN



In the main window of the system, you can access persons organised in hierarchical organisation structure. All functions can be found in Menu structure, but most frequently operations are available in the system toolbar. You also can access frequent functions in popup menus from selected person.

System menu Structure:

System

- Self Service – Switch DosiBase in Self Service mode. Persons can get and return dosimeters by self.
- Users- DosiBase user management. Creating of new user; password change.
- Options
    - Preferences – DosiBase Preferences, like language, communication port, Unite, etc;
    - Units – Dose units. Base Unit in µSv, it is possible to add derived units by specifying a conversion factor.
- Data
    - Professions – Management of the Professions classifier;
    - Operations - Management of the Operations classifier;
    - Risk Categories - Management of the Risk Categories classifier;
    - Countries - Management of the Countries classifier.
- About – Short information about Dosibase version and license status.
- Exit – Exit from system.

Persons

- Add organization – Add new organization in catalogue.
- Add person - Add new person in catalogue.
- Edit – Edit person or organization.
- Cut/Paste – Change person or organization location in catalogue tree. (CTRL+X)-> (CTRL+V).
- Remove – Remove persons. It is possible to remove only persons what are not active and enabled.

- Status Changes- management of person statuses changes.
- Licenses- management of person Licenses.
- History – History of all Issue and Deissue operations of person.
- Dose review – An overview of the doses received by the person.

Dosimeters

- EPD list – List of registered dosimeters, that can be issued to persons;
- EPD device thresholds – Define EPD thresholds, that can be used for specific task;
- EPD status – Instrument to review actual status of EPD;
- Issue – Issue the dosimeter for the person;
- Deissuse – Return the dosimeter from the person and register dose into the database;
- Deissuse Extended - Return the dosimeter from the person in extended mode and register dose into the database;

Reports

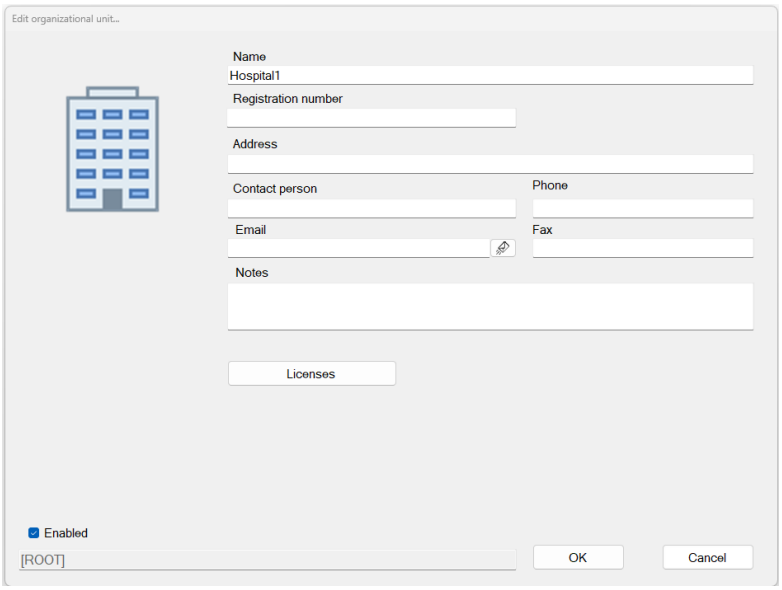
- Dose reports – Main report of collected doses.
- Persons in OU – list of persons in the organization.
- Issued – List of issued dosimeters a specific time.
- Person History – List of EPD Issue and Deissue operations.

4 MANAGE ORGANIZATIONAL UNITS AND PERSONS

4.1 ORGANIZATIONS

To create new organisation, select root or parent organisation and choose from menu Persons→Add Organization.

To edit existing one, select organization record and choose from menu Persons→Edit.



Mandatory field

- Name of organisation.

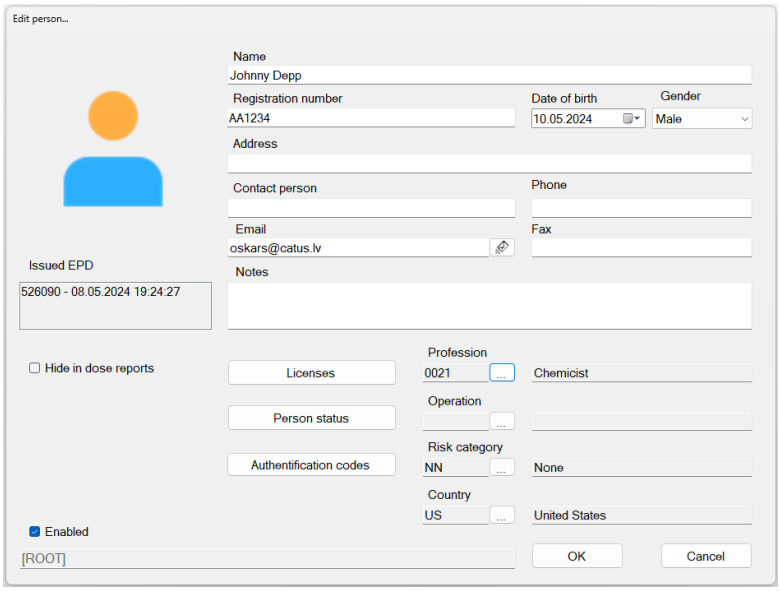
Additional field in edit mode

- Licenses.

4.2 PERSONS

To create new person, select root or parent organisation and choose from menu Persons→Add Person.

To edit existing one, select person record and choose from menu Persons→Edit.



Mandatory fields

- Name of person
- Registration number

Fields from database classifier

- Profession
- Operation
- Risk category
- Country

Additional field in edit mode

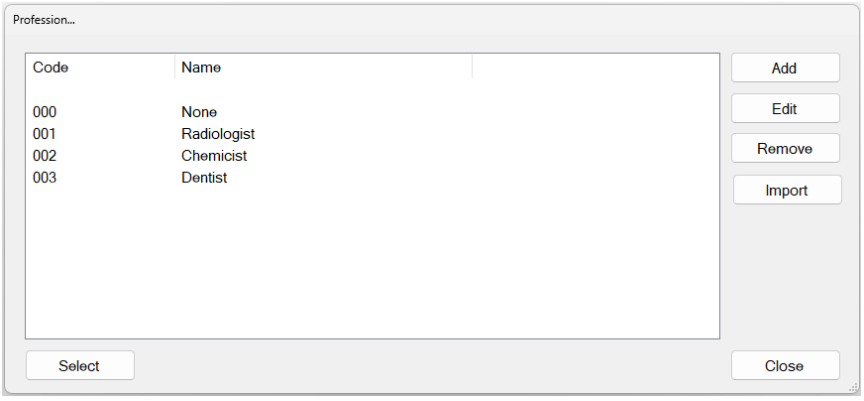
- Licenses
- Person status changes
- Authentication codes

You can mark record as inactive when check out “Enabled” property of OU or person. It will show grey in the Dosibase main window. To hide disabled organisations or persons check in the Dosibase preferences “Hide disabled...”.

4.3 CLASSIFIER TABLES

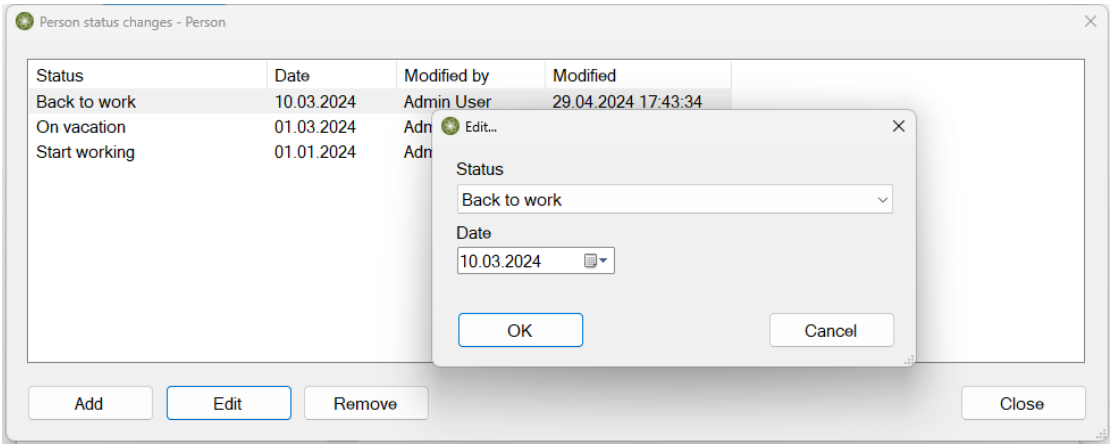
A value from a classifier list can be assigned to the person. Profession, Operation, Risk category, Country. Each classifier can be Edited at the time of assignment or by opening the correction window from the system menu.

- Professions: *System →Data →Professions*
- Operations: *System →Data →Operations*
- Risk Categories: *System →Data →Risk Categories*
- Countries: *System →Data →Countries*



The corrected value will be reflected in all persons where it has been used.

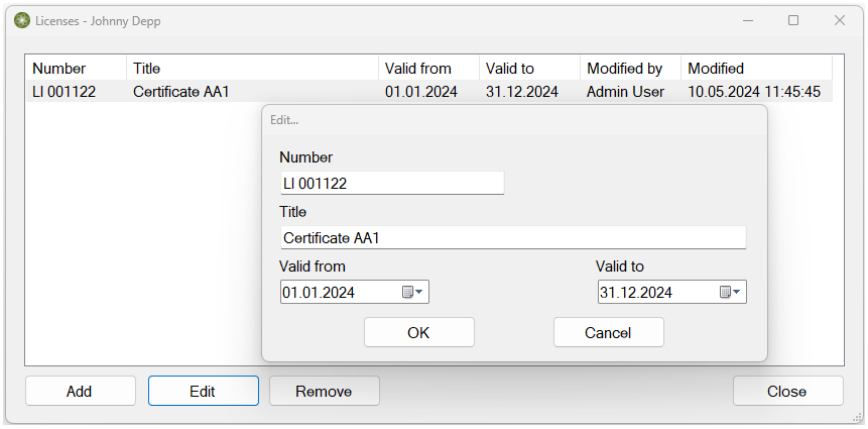
- In the “Edit person” window, the status of the person can be controlled by means of the button “Person status changes”.



If a person works in several organizations, when adding the person for the second, third and further organizations, the “Add existing” check box must be selected, and the person’s registration number must be entered to enable the system to find this existing person.

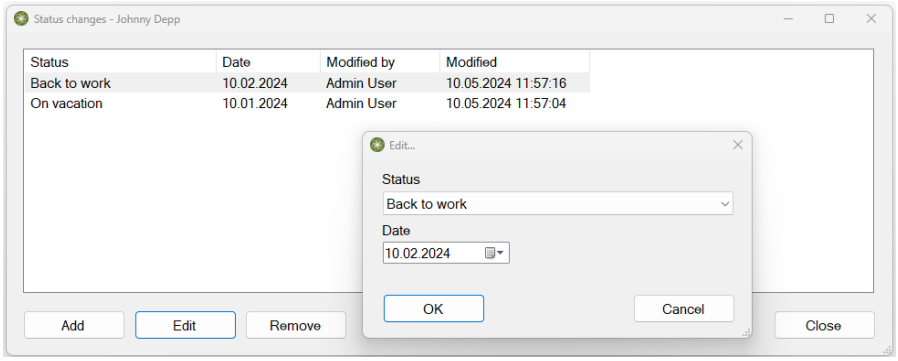
4.4 LICENSES

Once a person or organisation has been created, it is possible to assign one or more license records to it. Licenses can be accessed from main menu *Persons* → *Licenses* or directly from OU or Person edit window by pressing button “Licenses”.



4.5 STATUS CHANGES

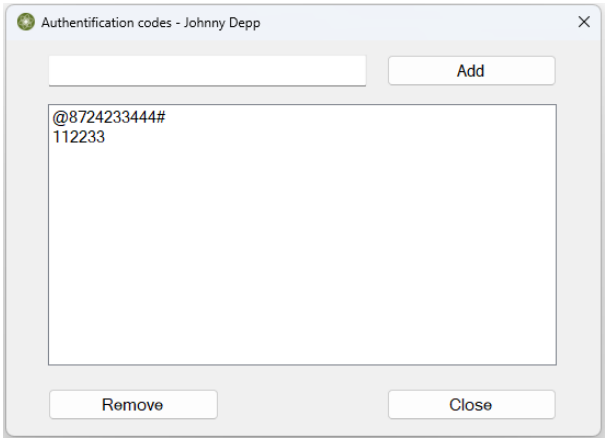
It is possible to track person status changes. Status changes can be managed from main menu *Persons* → *Status* Changes or directly from OU or Person edit window by pressing button *"Status Changes"*.



Only last record is accessible for editing.

4.6 AUTHENTIFICATION CODES

Once a person has been created, it is possible to assign one or more Authentication codes to it by clicking button "Authentication code" in the person edit window. For example, these can be identity card RFID coded or ease of use usernames. Authentication codes is used for identifying persons in self-service mode.



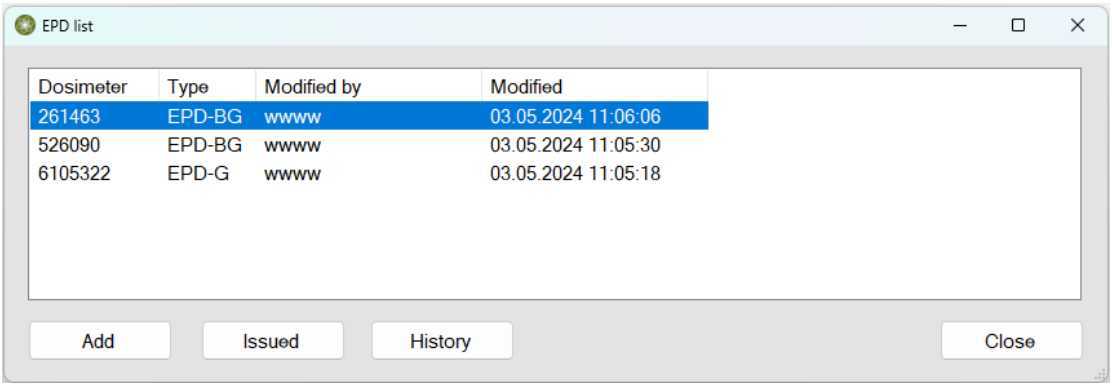
5 DOSIMETERS

Ensure that your EPD adapter is plugged into your computer before entering DosiBase. Make sure that a green light shows up, if not then check whether the IR adapter is plugged in, and that the correct COM port number defined.

You can find correct COM port in Device Manager on your computer. Then navigate to Ports (COM & LPT) and find your EDP adapter. Remember the number after COM in the brackets.

Correct COM port can be set id System preferences. *Options → Preferences*.

5.1 LIST OF DOSIMETERS



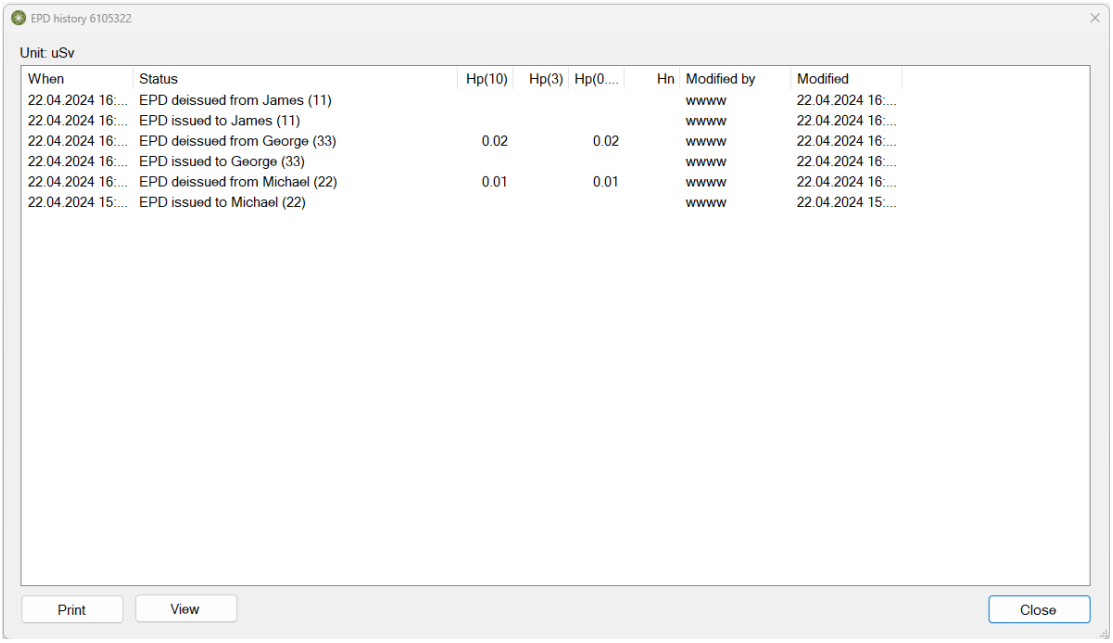
EPD List can be opened in menu *Dosimeters → EPD list*. In this window you can add new dosimeters to your database. Once they are added, they can be issued to specific persons in your organisation.

Through this window it is also possible to view all currently issued dosimeters along with the persons that the dosimeters are issued to. To do this, click the Issued button, then select the date before which you would like to see the data. This table can be exported to the appropriate file formats as well.

To view EPD issue/deissue history. click *"History"* button. Here you can also see the dose reports from any case of EPD deissue by selecting it and clicking *View*.

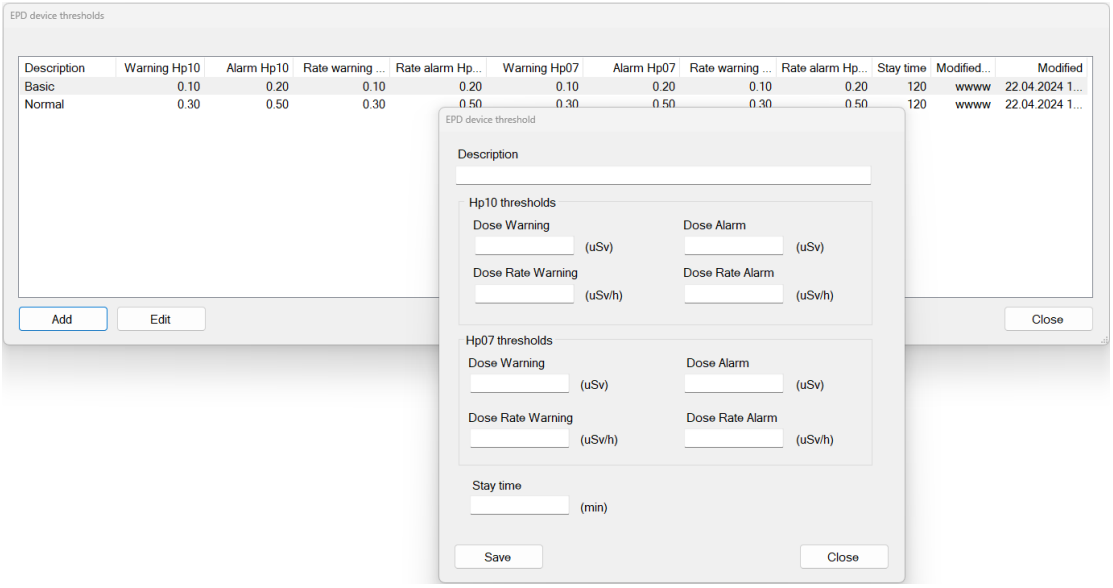
To search for unreturned dosimeters, click the *"Issued"* button.

Enter a date to find dosimeters issued before this date and not returned. By default, the date is set to today. If the date is today, the report that appears contains all unreturned dosimeters.



5.2 EPD DEVICE THRESHOLDS

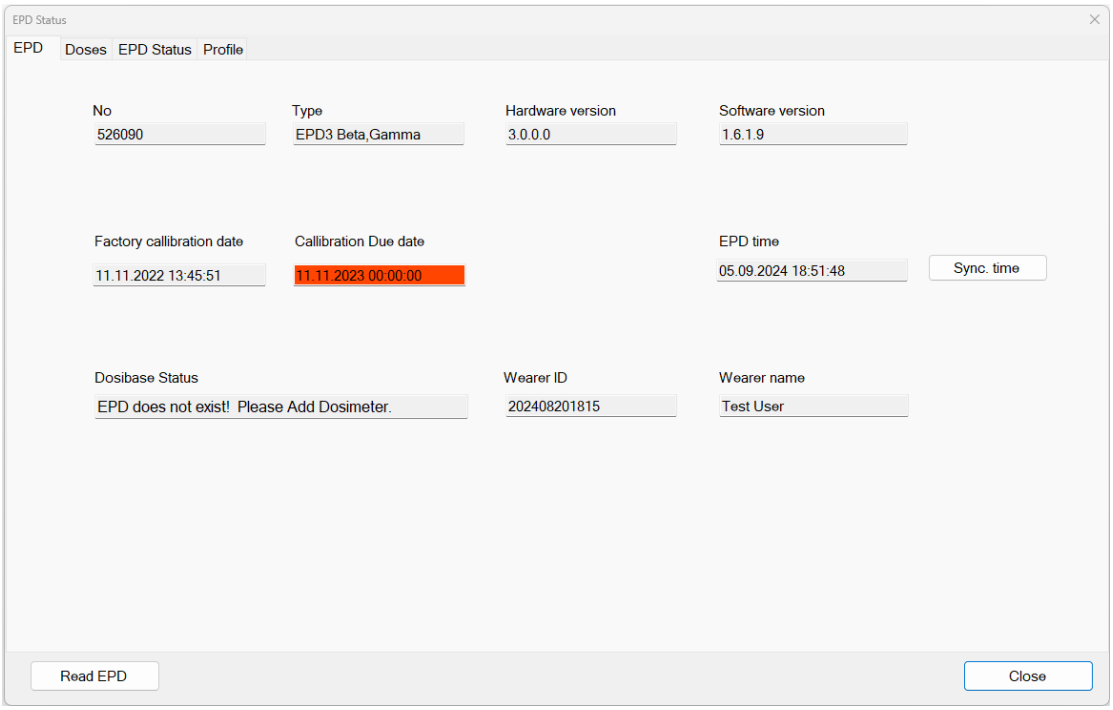
In the system menu Dosimeters → EPD device thresholds, you can access the Task list with thresholds. Here you can add new one that can be set to activate warning or alarm tasks, used to warn the user when the time limit of staying in an increased radiation zone is reached. The dose thresholds are entirely customizable as is the stay time.



Once a EPD device threshold task is added, it cannot be deleted. The record can be corrected until it gets used for the first time. Once the task is in use, it cannot be corrected any more, only new tasks can be added.

5.3 EPD STATUS

In the system menu Dosimeters → EPD status, you can access the access dosimeter data. It is possible to work with any EPD. There is no need to add it to the list of dosimeters



Identities

No	EPD Serial number
Type	Identifies the Type of the EPD
Hardware version	Identifies the mark and build of the EPD
Software version	Version number for the loaded firmware
TotalDoseOverrange	Total dose overrange alarm active

Factory Calibration and EPD Time

Factory callibration date	Last Factory callibration date
Calibration Due Date	Callibration Due Date for next annual check
EPD Time	Actual EPD Clock

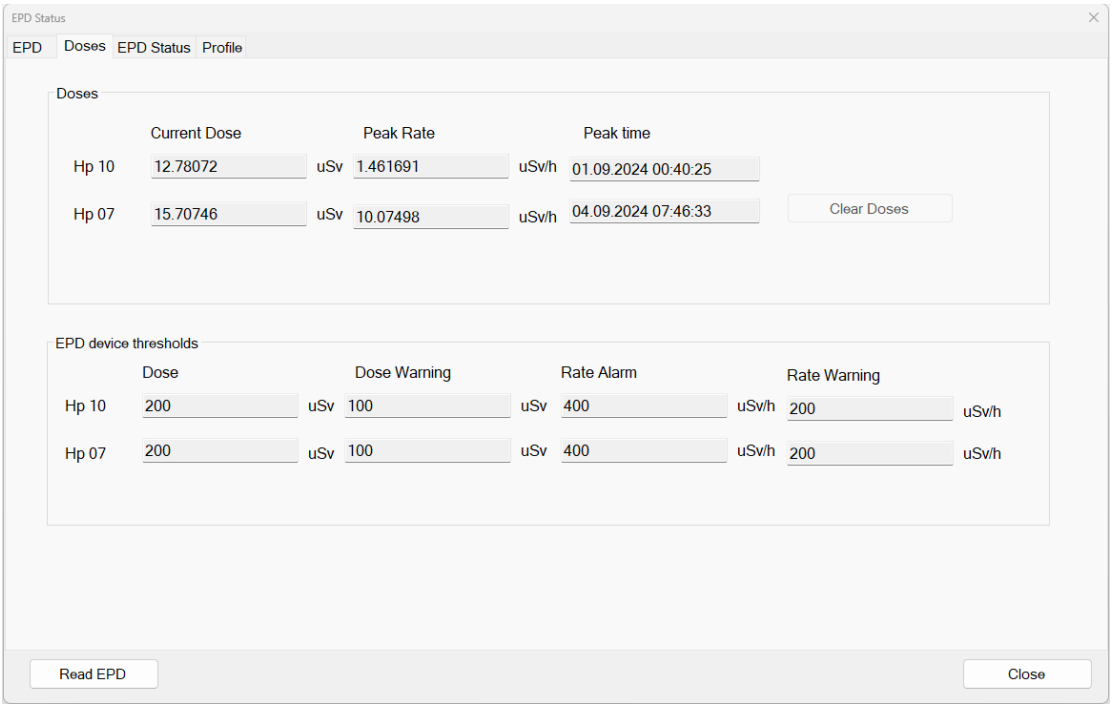
Sync time button – Synhronise the EPD date/time with your PC clock.

EPD Issue status

Dosibase Status	Disply EPD actual status in Dosibase: Issued, Not Issued, EPD does not exists,
Wearer ID	EPD's last user ID number

Wearer Name	EPD's last user name

Doses – actual collected doses an EPD thresholds



Doses

Current Dose	Dose is regarded as a short-term record of Dose received, usually associated with the issue of an EPD. It is this value that is compared with Dose Alarm Thresholds and an alarm raised if the value exceeds the thresholds
Peak Rate	This is the Peak Rate calculated by the EPD at the time of the Read.
Peak Time	This is the time at which the Peak Dose Rate occurred. No Peak is displayed if there has not been a peak recorded since the peak dose rate was last cleared.

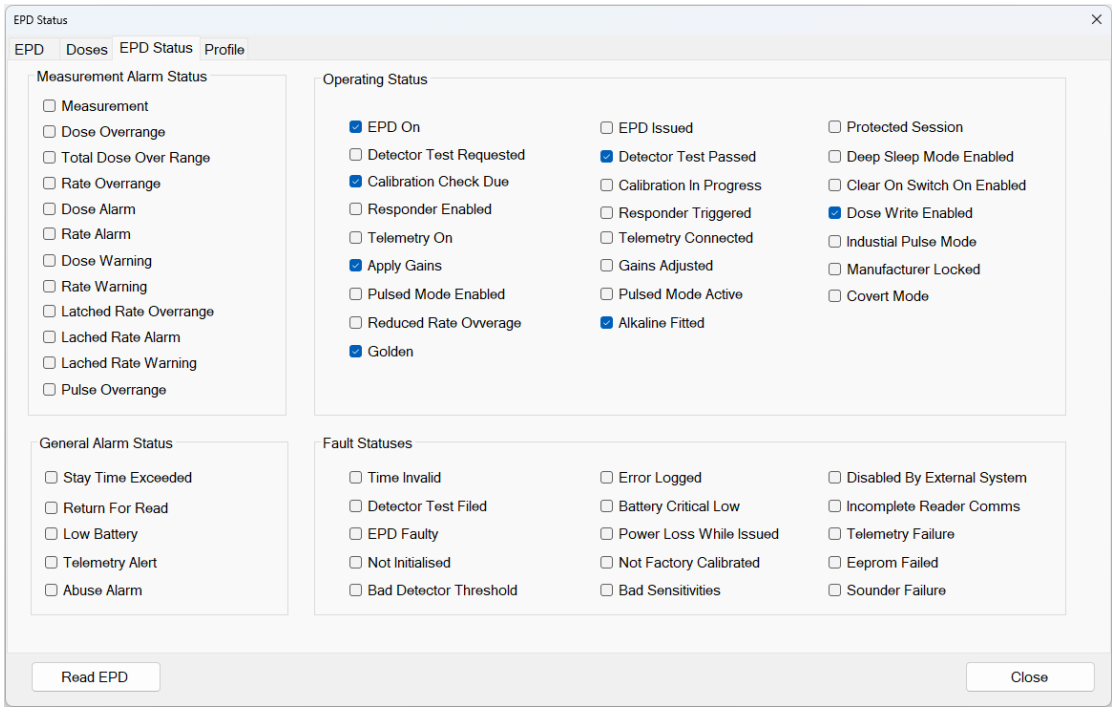
Clear Dose button – Clear the Dose Values. If EPD is issued, Clear dose button will be disabled.

EPD device thresholds

Dose	When the Dose ≥ Dose Alarm Threshold, the EPD will activate the Dose Alarm.

Dose Warming	When the Dose ≥ Dose Warning Alarm Threshold, the EPD will operate the Dose Warning Alarm.
Rate Alarm	When the Rate > Rate Alarm Threshold, the EPD will operate the Rate Alarm.
Rate Warning	When the Rate > Rate Warning Alarm Threshold, the EPD will operate the Rate Warning Alarm.

EPD Status - actual state of EPD



Measurement Alarm Status

Dose Overrange	Dose overrange alarm active
Total Dose Overrange	Total dose overrange alarm active
Rate Overrange	Rate overrange alarm active
Pulse Overrange	Pulse mode overrange alarm active
Dose Alarm	Dose alarm active
Rate Alarm	Rate alarm active
Dose Warning	Dose warning alarm active

Rate Warning	Rate warning alarm active
Latched Rate Overrange	Rate overrange alarm previously occurred
Latched Rate Alarm	Rate alarm previously occurred
Latched Rate Warning	Rate warning alarm previously occurred

General Alarm Status

Stay Time Exceeded	Stay time alarm has occurred
Return For Read	Return for Read alarm has occurred
Low Battery	Low battery alarm active
Telemetry Alert	Telemetry alert active e.g. a pager message has been received
Abuse Alarm	Abuse alarm has occurred

Operating Status

EPD On	EPD is switched on
Detector Test Requested	A detector test has been requested but not yet completed
Calibration Check Due	The calibration due date has been exceeded. The due date is set during calibration.
Responder Enabled	Responder mode is enabled to only accumulate dose after a trigger event
Telemetry On	Telemetry is enabled and powered on
Apply Gains	The EPD is unlocked so that calibration gains can be applied using the Gain Factors
Pulsed Mode Enabled	Pulsed mode enabled for operation in pulsed fields
Reduced Rate Overrange	The EPD is in pulsed mode and rate overrange limit has been reduced to a smaller value
Golden	This is a 'golden' dosimeter with a reference calibration

Epd Issued	EPD is issued
Detector Test Passed	Detector test has been run and passed
Calibration In Progress	A calibration is currently in progress (used in production)
Responder Triggered	Responder mode dose recording has been triggered
Telemetry Connected	Telemetry has an active BLE connection to a remote host
Gain Adjusted	Calibration gains are in effect
Pulsed Mode Active	Pulsed mode is currently active
Alkaline Fitted	An alkaline battery is fitted (rather than a Lithium)
Protected Session	A protected comms session is in progress which will cause the EPD to alarm if the comms session is ended prematurely. Cleared by an end of session command.
Deep Sleep Mode Enabled	Deep sleep mode has been enabled to disable IrDA comms detection when EPD is switched off
Clear On Switch On Enabled	Dose will be cleared when the EPD is swtched on
Dose Write Enabled	Writing of dose has been enabled. Used for test and training purposes
Industrial Pulsed Mode	Pulsed mode is industrial (NDT)
Manufacturer Locked	Manufacturer Lock out Enabled
Covert Mode	Covert mode enabled to silence alarm and other indications

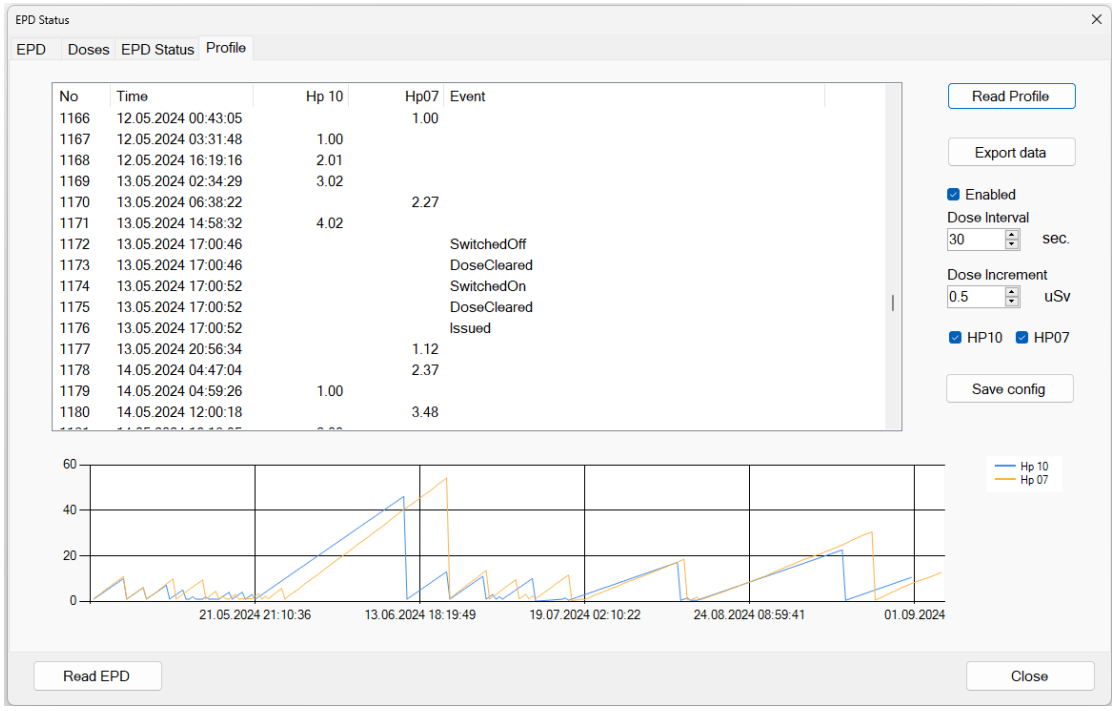
Fault Status

Time Invalid	Real Time Clock time is invalid and needs to be synchronised
Detector Test Fail	Detector test has failed
EPD Faulty	EPD has one or several fault conditions
Not Initialized	EPD has an uninitialized EEPROM memory

Bad Detector Threshold	Detector threshold data fails integrity checks
Error Logged	An error has been logged in the event log
Battery Critical Low	Battery condition has reached critical end of life
Power Loss While Issued	A reset occurred while the EPD was issued
Not Factory Calibrated	EPD has not been calibrated
Bad Sensitivities	Sensitivity factors fail integrity checks
Disabled By External System	An external system has flagged this EPD as disabled and not to be used
Incomplete Reader Comms	EPD has been removed or lost comms connection during a protected session
Telemetry Failure	Telemetry radio or internal interface has failed
Eeprom Failed	Failure of EPD internal storage in EEPROM
Sounder Failure	Sounder has failed self test

Profile

You can read the profile data from the EPD and view it in tabular or graphical form



Export data – export data in csv format.

Dose Profile Configuration

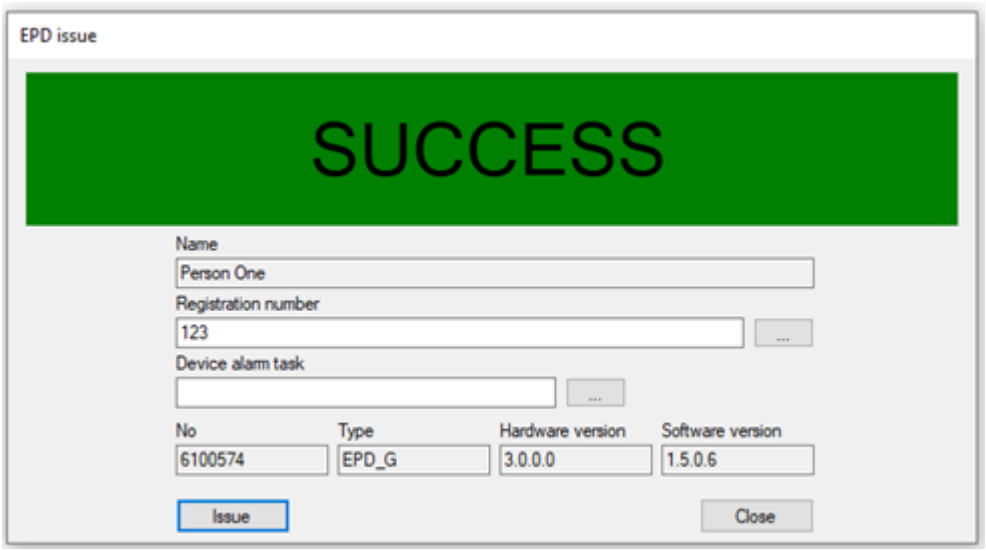
Enabled	Enables/Disables Dose Profile Logging
Dose interval	Use the Spin buttons to select a minimum interval for the Dose Profile. This is how often a Dose Profile is logged. On power cycle or changing this interval, the EPD records the dose and then every increment after this. If the Dose has changed, a record is made; if the Dose has not changed, no record is made. Minimum value is 1 and maximum value is 65535 (i.e. 18 hours, 12 minutes and 15 seconds). Typical values for normal use are between 30 and 120 seconds.
Dose Increment	Use the Spin buttons to select a Dose Increment for the Profile. This is the increment change required to log the Dose Profile. Minimum Value is 0.1 and maximum value is 60,000 µSv. Note that the Dose Increment is recorded in µSv
Measurands	Tick the check box to display the Dose Profile for the required measurand to be logged.

5.4 ISSUE DOSIMETERS

First, place the dosimeter on the infrared USB adapter. From the organization tree, select a person to whom to assign a dosimeter. Select from menu function *Dosimeters → Issue*.

This will open a new window. It is possible to change Person by entering Registration number and select Device alarm tasks. Once you have completed the alarm task setup, you can click the *"Issue"* button. A large banner will either confirm or deny the success of the issuing.

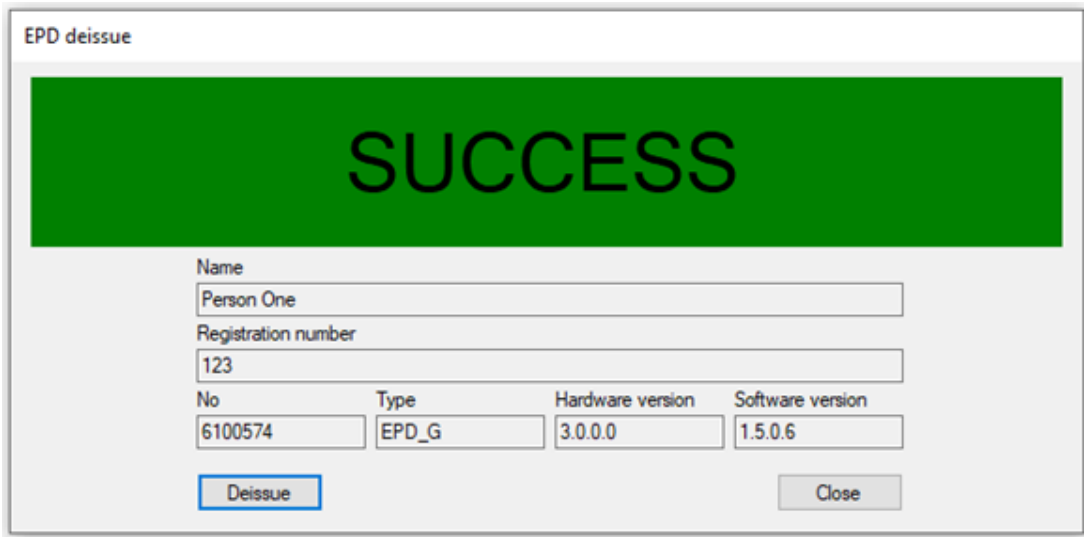
If parameter Check EPD calibration on issue is set On, the system will check Calibration Due Date. In case the calibration has expired system will show alarm message and ask to user to continue issue process.



In case of failed issue process, an error message will appear detailing the reason for the failure. Close the message window as well as the "EPD ISSUE" window. From the organization tree, select the next person and repeat the process.

5.5 DEISSUE

Place a currently issued dosimeter on the infrared USB adapter. Select from menu function *Dosimeters → Deissue*. Start process by push button "Deissue". A large banner will either confirm or deny the success of the deissuing. In case of failure, an error message will appear, detailing the problem.



Unless the option "Clear EPD on deissue" is selected, data from a dosimeter is deleted ONLY when the next person receives the dosimeter. When the dosimeter is returned, it only gets switched off.

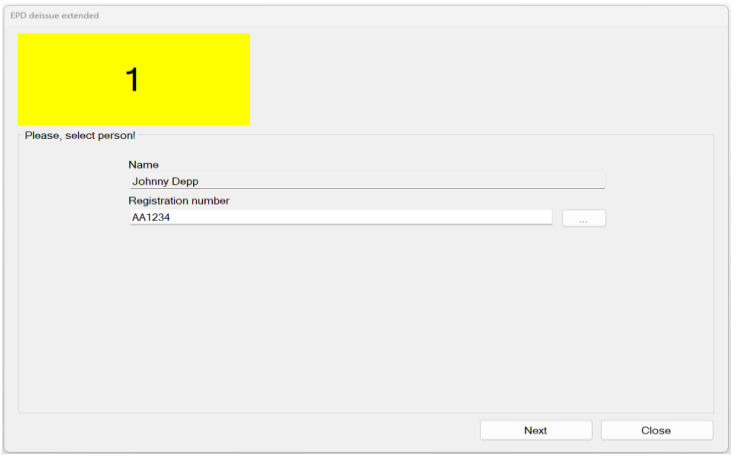
While a dosimeter is not issued to anyone and the battery is not removed, the dosimeter will not be usable and will remain in the OFF state.

5.6 DEISSUE EXTENDED

This procedure is used when the user of a dosimeter is not known before issuing. It enables reading dosimeter data and assigning it to a user at the time.

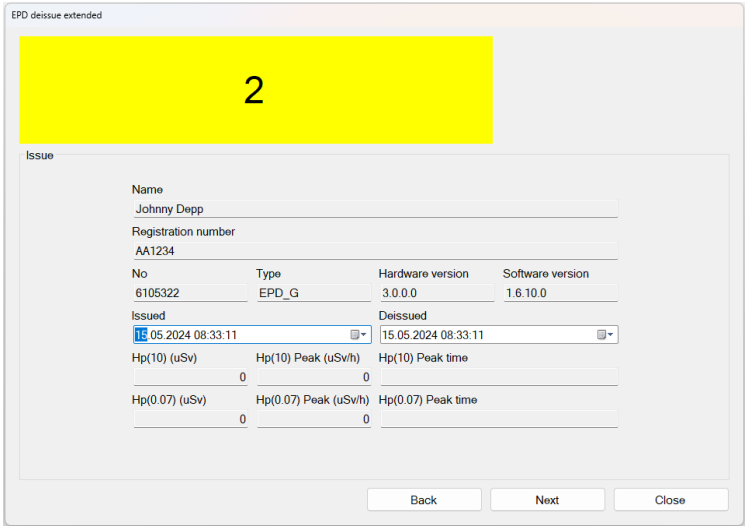
Make sure that the dosimeter is erased before person start to use it. Deissue Extended not provide erasing of previous doses.

Select person from list and go to menu *Dosimeters* → *Deissue Extended.* A new window will appear.



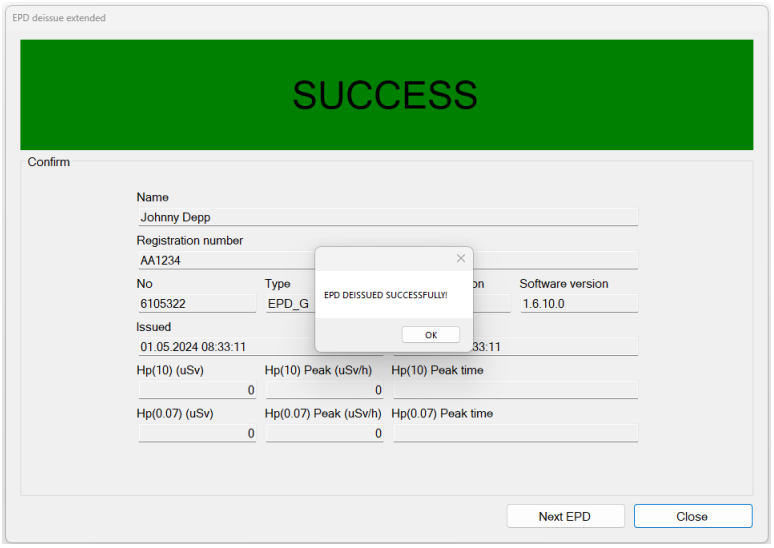
If Person is not selected enter valid registration number. It is possible to use search by clicking the ellipsis button and find the person by several symbols of the person's name or personal code.

Place the dosimeter near the infrared reader and click the *"NEXT"* button. Dosibase will read and display dosimeter data. Then enter the period for which the dosimeter being used by selected person.



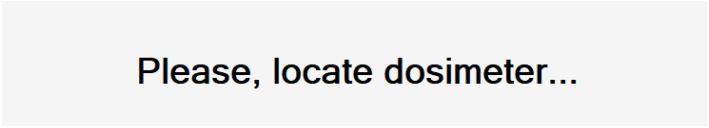
Click the *"DEISSUE"* button. The message appears that returning the dosimeter is successfully completed.

If "Clear EPD on Deissue Data" is set On , Dosimeter dose data will be deleted after this reading.


EPD deissue extended
SUCCESS
Confirm
Name
Johnny Depp
Registration number
AA1234
No
6105322
Type
EPD_G
Software version
1.6.10.0
Issued
01.05.2024 08:33:11
Hp(10) (uSv)
0
Hp(10) Peak (uSv/h)
0
Hp(10) Peak time
Hp(0.07) (uSv)
0
Hp(0.07) Peak (uSv/h)
0
Hp(0.07) Peak time
EPD DEISSUED SUCCESSFULLY!
OK
Next EPD
Close

6 SELF SERVICE MODE

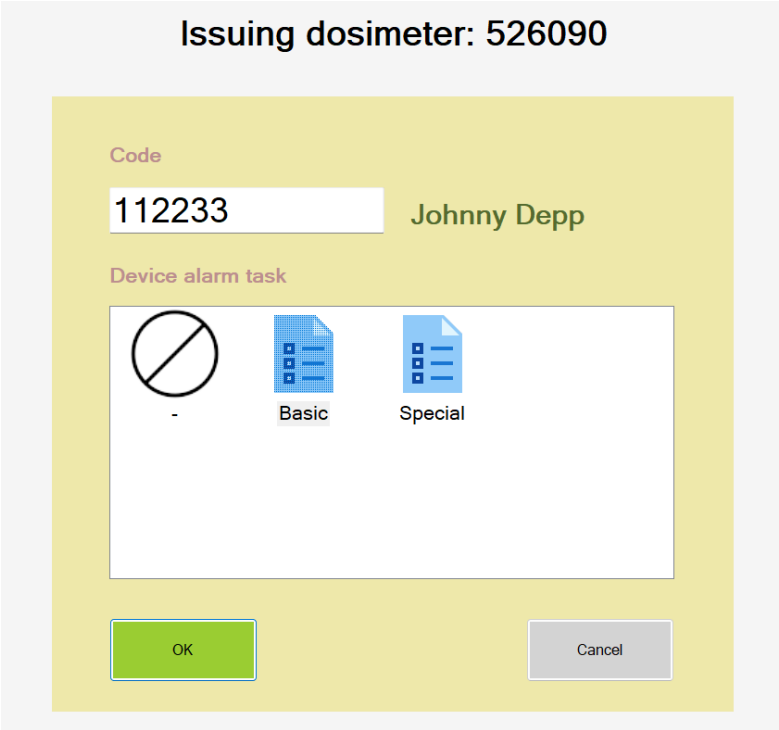
Dosibase provides employees with self-service functions without using a Dosibase operator. Self-service mode can be started by *System* → *Self* Service



Using this mode, the user of the Dosibase program will not be able to use any other features of the program until it is closed and reopened. Upon opening again, it will require a login

6.1 ISSUE DOSIMETER

Place a dosimeter on the infrared USB adapter. Enter or scan a registration number or authorisation code and select the task.

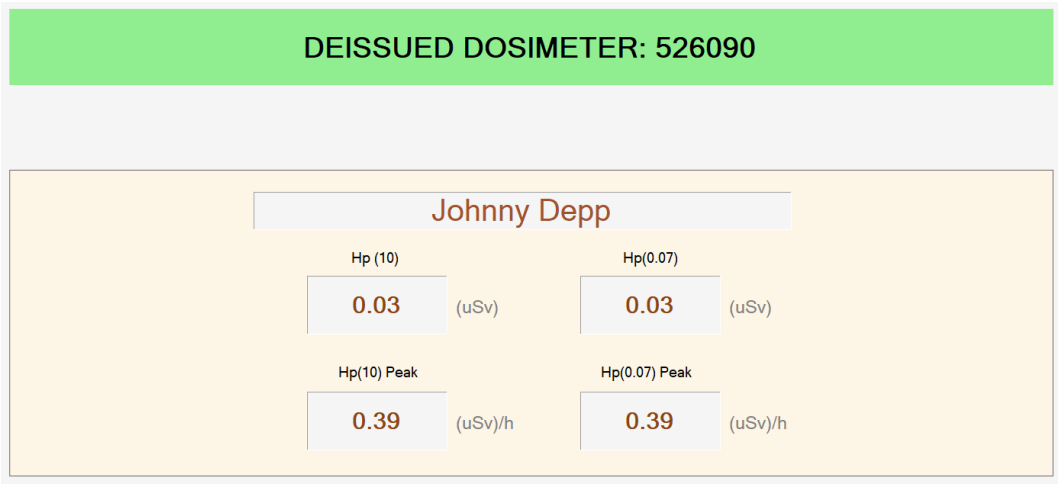


Click the "OK" button. Issuing is successfully completed.

The next dosimeter can be taken and placed on the infrared USB adapter to perform assigning or returning of the next dosimeter.

6.2 DEISSUE DOSIMETER

Place a dosimeter on the infrared USB adapter. System will read Dosimeter data and show results on the screen.

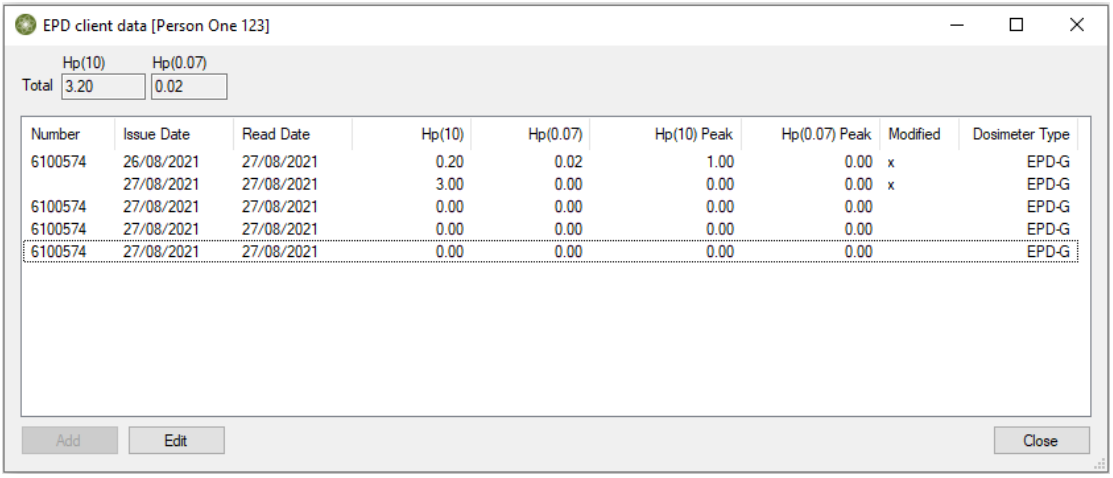


DeIssuing is successfully completed.

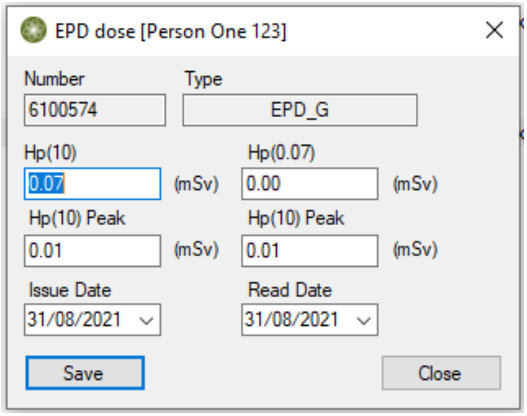
Next dosimeter can be taken and placed on the infrared USB adapter to perform assigning or returning of the next dosimeter.

7 DOSE REVIEW

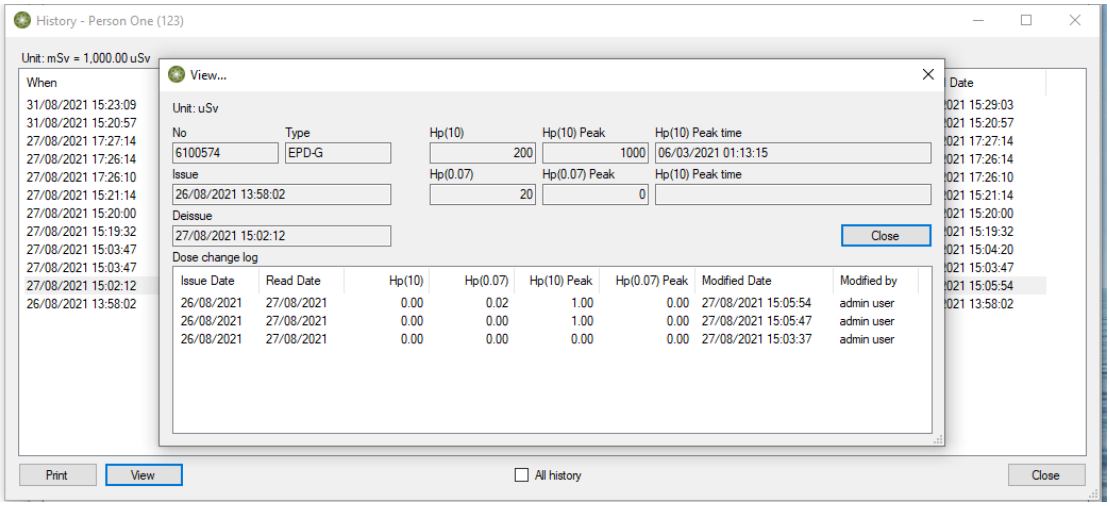
To review and edit past recorded doses, select the person that interests you, then navigate to the option "*Dose review*" in the PERSONS drop-down menu. This will open a new window with the entire history of this persons' recorded doses.



Here you also have the option to edit a reading. To do this, select the reading you wish to edit and click the "*Edit*" button. This enables you to correct faulty readings if they occur. Once a reading has been edited, an x will appear in the "*Modified*" column of the dose review table



These edits will be logged and recorded, and it is possible to view the entire history of any given dose report to see all past edits that have been made to it. This can be done by again selecting the relevant person in the organizational tree and clicking the History option of the PERSONS drop-down menu. This will open the History window. Here you can view a complete history of the person in your organization. Here you can select any reported doses and click View to see this recordings' history.



At the bottom of this View window is the *Dose change log.* If any changes have been made to the report, there will be multiple entries here detailing each edit along with a timestamp and the user who modified it.

8 REPORTS

All reports can be exported to DOC, XLS and PDF format.

Dosibase has built-in reports. If you need adjustments and customisations, please contact your Dosibase consultant.

8.1 DOSE REPORTS

Select an organization subunit, or person for whom to view a dose report.

Select the option *Reports → Dose Reports*.

Select to view either of the following reports:

- Total doses of persons in given period - shows the total dose a person received over a report period
- Detailed report per persons - shows the list of each measurement

Select the period for which to view the report.

The four fields at the bottom of the window can be used to filter results by specifying threshold value for dosimeter elements.

8.2 PERSONS IN OU

Select an organization or subunit for which to view a report about persons in it. The report can be viewed about one person – then it will contain the name and registration number of this person.

Select the menu *Reports → PERSONS IN OU*. A report appears as a result.

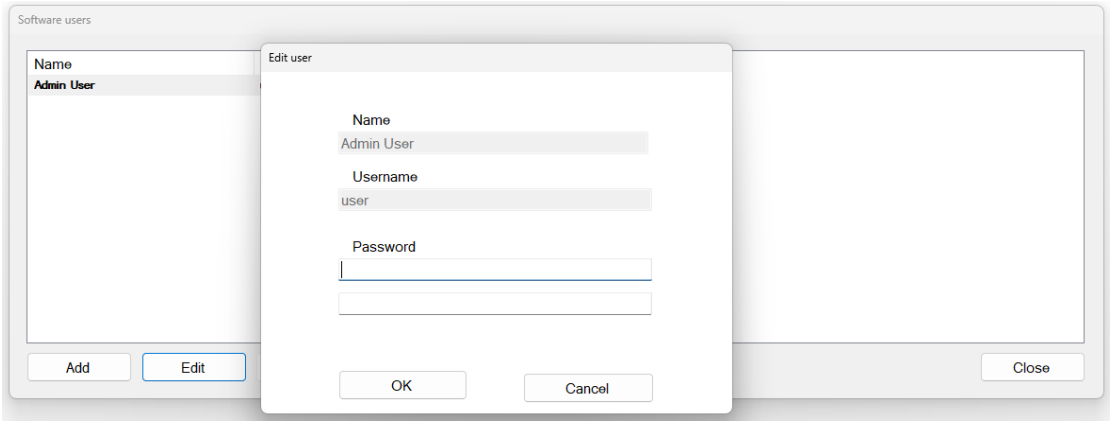
8.3 ISSUED

Select the menu *Reports → Issued*. Choose the date on which you want to check the issued dosimeters. A report appears as a result.

9 ADMINISTRATIVE FUNCTIONS

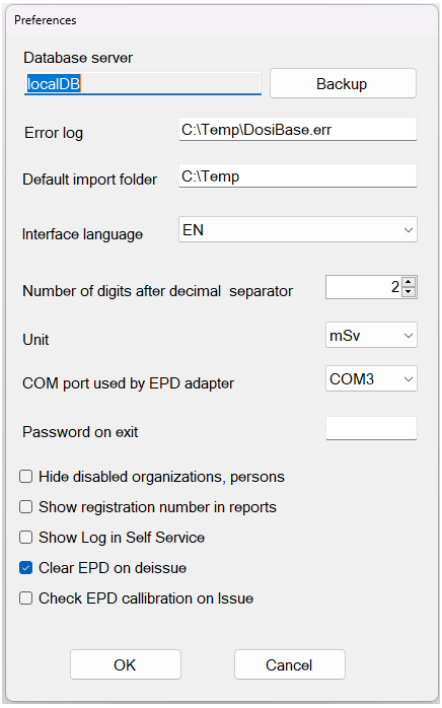
9.1 USERS

If more than one person will be working with the system, define other users *System → Users*. Specify User real name, username, and password.



9.2 PREFERENCES

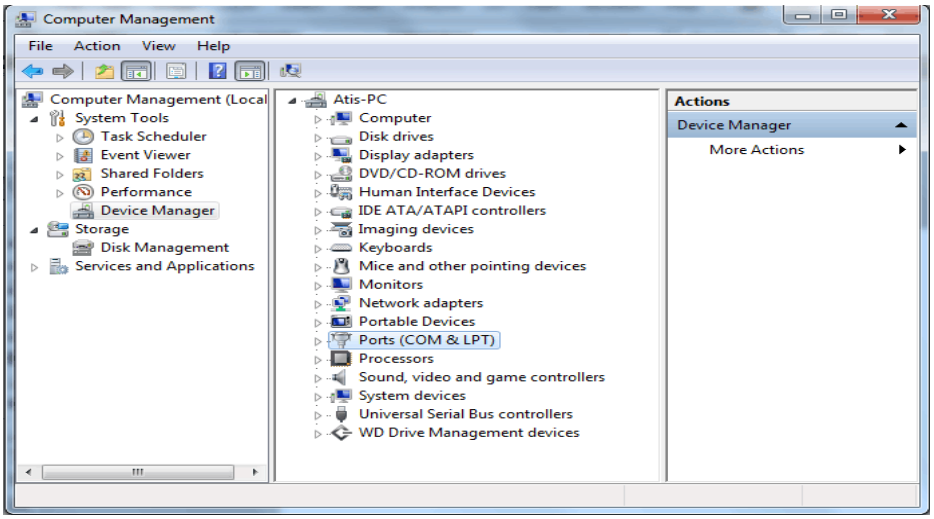
It is possible to change system behaviour by changing system preferences. *Options → Preferences*.



The field "*Database server*" contains the connection string of the SQL server.

- The field *"Error log"* points to error log of Dosibase workstation.

- The field "*COM port number used by EDP adapter*" is used to specify the COM port number of the infrared USB adapter. This COM port number can be found by opening DEVICE MANAGER and viewing the element „Ports (COM & LPT)". This option is used



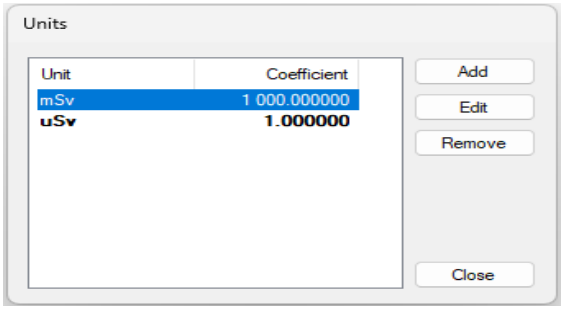
only when working with the ELDos version of Dosibase.

- Hide disabled organisations, persons – indicates whether the disabled persons and organisations are visible in main window.
- Show registration number in reports - indicates whether the person registration number is shown in reports.
- Show Log in Self Service - indicates that system display debug log information in Self Service mode.
- Clear EPD on Deissue – system will clear EPD dose data on Deissue process.
- Check EPD calibration on issue – System will check EPD calibrated Due Date on Isse process.

After any changes in Preferences, you must restart the program.

9.3 UNITS OF MEASURE

Units of measure can be edited in *System* menu option *Options* → *Units*. Base unit is µSv (uSv). Dosibase use only Latin characters. It is possible to add derived units by indicating the conversion coefficient.



All units of measure are obtained by multiplying the base unit of measure µSv by an appropriate coefficient. For example, to define a unit of measure mSv, use the coefficient 1000.

Dosibase store measurement values with an accuracy of 0.001 µSv.